

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 10-070528

(43)Date of publication of application : 10.03.1998

(51)Int.Cl.

H04L 9/32
H04M 3/42
H04M 11/00
H04N 1/00
H04N 1/32
H04N 1/44

(21)Application number : 08-227193

(71)Applicant : MURATA MACH LTD

(22)Date of filing : 28.08.1996

(72)Inventor : YASUMOTO TADAYUKI
ISHIBASHI MASAKAZU

(54) CONFIDENTIAL COMMUNICATION METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To surely send transmitted contents by conducting a notice in advance before the confidential transmission and starting the confidential transmission after it is confirmed that the receiver side is a reception enable state.

SOLUTION: A user ID, a password, an electronic mail address and a provider type are registered to a user table 1 for each user and the provider type corresponds to a provider type in a provider table T2. Furthermore, a destination name, an electronic mail address of an opposite party, a facsimile number and its type and a password are registered to each abbreviation number and one operation dial number. When the password is a password returned from a receiver side in the case of confidential transmission and the password is received after the transmission of the confidential transmission notice, the table T3 is referenced to discriminate whether or not the confidential transmission is executed. Then the confidential transmission is started after it is confirmed that the password is coincident with the registered password.

(a)

ユーザ名	ユーザID	パスワード	電子メールアドレス	サービス種別
山田太郎	00001	123456	yamada.taro@nifty.jp	A
佐藤花子	00002	654321	satohana@nifty.jp	B

(b)

サービス種別	サービス名称	電話番号	電話番号
A	インターネット	03-222-7777	
B	ファクシミリ	03-222-4444	

(c)

短縮番号	相手先名称	電子メールアドレス	ファクシミリ番号	サービス種別	パスワード
短縮001	A社営業	asae@nifty.jp	03-221-1111	G4	1234
短縮002	佐藤花子	satohana@nifty.jp	03-789-2222	B2	5678
短縮003	山田太郎	yamada.taro@nifty.jp	03-456-3333	B1	9999
短縮004	佐藤花子	satohana@nifty.jp	03-543-8877	G3	1111

* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the confidential correspondence procedure suitably used in the communication terminal which enables connection with a computer communication network.

[0002]

[Description of the Prior Art] Facsimile apparatus is equipped with confidential communication facility from the former, and according to this, even if the transmission place was common facsimile apparatus, the printout of image data which carried out facsimile transmission is permissible only to a specific man. In a transmitting side, after choosing confidential mode and specifying the confidential box number of the other party facsimile apparatus, facsimile transmission is started. In one receiving side, sequential recording is carried out in the confidential box which had received data specified, the data which were accumulating that there was confidential reception when there was an input of a screen display or the password which carried out the printout and was beforehand defined to the confidential box with the destination, a confidential box number, etc. are read from a confidential box, and a printout is carried out to the recording paper.

[0003] By the way, recently, it is in the inclination for computer communication networks, such as the Internet, to be used increasingly, and those who use also at ordinary homes are increasing in number. Only the communication link costs to a nearby contract provider (provider to a computer communication network) from a personal computer etc. has come [the communication link with an overseas computer] for a user to be able to make [use of such a computer communication network] it what is necessary just be to pay therefore by being cheap.

[0004] So, in current, in view of such a situation, communication terminals, such as facsimile apparatus which enabled connection with a computer communication network, are developed, and according to this, the manuscript image which carried out the reading scan is made as for transmission to a partner's communication terminal by either facsimile transmission or electronic mail transmission. That is, at the time of transmission of image data, when facsimile transmission is chosen, image data is directly transmitted using a dial-up line network etc. On the other hand, when electronic mail transmission is chosen, image data is changed into an electronic mail format, and the data after this conversion are stored in the mail box on a network. It checked that many of receiving sides connected a computer communication network to the suitable tide via the telephone line by the dialup connection, and the electronic mail was transmitted in this, and image data is read from the mail box.

[0005]

[Problem(s) to be Solved by the Invention] However, in the confidential communication link of the above-mentioned conventional facsimile apparatus, in the facsimile apparatus of the other party which carried out confidential reception, when interruption of service occurred, there was a case where the image data which was being accumulated in the confidential box disappeared, and the important contents of the manuscript which carried out confidential transmission did not get across to a partner.

Moreover, that image data disappeared to the transmitting side in such a case had the case where most time amount was required until the contents transmitted to the partner by resending image data were transmitted, since it was not notified.

[0006] Moreover, by recently, since the computer communication network had spread as described above, the fullness using this of a confidential communication link was considered. After this invention is proposed in view of the above-mentioned situation, notifying beforehand before confidential transmission and checking that a receiving side is in a ready-for-receiving ability condition, confidential transmission is started and the transmitted contents aim at offering the confidential correspondence procedure it was made to be transmitted certainly.

[0007]

[Means for Solving the Problem] The password which identifies a receiving side beforehand is registered into the transmitting side, and in the confidential correspondence procedure according to claim 1 proposed in order to attain the above-mentioned purpose, when performing confidential transmission, beforehand, a confidential transmitting notice is performed to a receiving side, the reply of a password is received from a receiving side, and a transmitting side starts confidential transmission, after it checks that it is in agreement with the password which this password registered beforehand.

[0008] That is, by the approach of this invention, at a transmitting side, by the reply of a password, since it turns out that a receiving side is in a powering-on condition (ready-for-receiving ability condition), important data can be transmitted in comfort. In one receiving side, by a key stroke etc., since data are directly receivable immediately after answering a letter in a password, it becomes unnecessary to have a confidential box like before, and the confidentiality of data can be held further.

[0009] Confidential transmission and a confidential transmitting notice are performed here through a dial-up line or a computer communication network. Moreover, what is necessary is just to use for a password the password which the receiving side is using in a confidential communication link from the former. That is, it is beforehand assigned to a password to those who can use confidential reception, and if the ID code which inputs the data stored in the confidential box a printout or in order to carry out a screen display is used as it is, actuation by the receiving side does not need to become complicated.

[0010] At claim 2, confidential transmission is performed through a computer communication network, and a confidential transmitting notice is also performed through a computer communication network by claim 3. There are the Internet, NIFTY-Serve, PC-VAN which are personal computer communication service, etc. in a computer communication network, and electronic mail service is carried out as one of the services here.

[0011] Thus, the communication terminal which uses the confidential correspondence procedure of this invention is enabling connection of a computer communication network. As this kind of equipment, there are facsimile apparatus with an electronic mail function, a personal computer equipped with data communication facility, etc.

[0012]

[Embodiment of the Invention] Below, the gestalt of operation of this invention is explained with reference to a drawing. The system configuration for realizing the confidential correspondence procedure of this invention to drawing 1 is shown. Here, actuation of this invention approach is explained for the facsimile apparatus F and Fa with an electronic mail function in drawing as a communication terminal of a transmitting side and a receiving side, respectively.

[0013] The data transmission from facsimile apparatus [of a transmitting side] F may connect computer communication network N through a dial office P, may transmit an electronic mail, may connect computer communication network N to the tide of arbitration through a dial office Pa with the facsimile apparatus Fa of a receiving side, and may carry out facsimile transmission through the case (root **.-**.-**.-**) where an electronic mail is made to receive, and a dial-up line (root **.-**.-**.-**).

[0014] By this invention approach, the password which identifies a receiving side Fa beforehand is registered into the transmitting side F (it mentions later). A transmitting side F In order to transmit data only to a specific man, when performing confidential transmission After checking that it is in agreement with the password which performed the confidential transmitting notice which showed that confidential

transmission was carried out to the receiving side Fa, and received the reply of a password in it from the receiving side Fa, and this password registered into it beforehand, it is characterized by starting confidential transmission.

[0015] In addition, although confidential transmission and a confidential transmitting notice may be performed by any of electronic mail transmission and facsimile transmission, it is more desirable to make transmission of the password from a receiving side Fa into the data communication which used the dial-up line, if the point of confidentiality and safety is taken into consideration. The personal computer PCa (root ****_**_**_****, ****_**_****) linked to a dial office Pa is sufficient as the equipment of a receiving side, and it may be the usual facsimile apparatus Fb which is not equipped with the electronic mail function.

[0016] If a receiving side is the usual facsimile apparatus Fb, facsimile transmission of both the both sides of confidential transmission and a confidential transmitting notice will be carried out (root ****_**_****). In this case, the password transmission from a receiving side serves as a Request to Send, and the polling communication link with which the usual facsimile apparatus Fb is equipped from the former can be realized. In addition, also except the confidential transmission whose facsimile apparatus F does not need a password, electronic mail transmission is possible and that of data transmission is possible to Computer PC (root ****_**_****) and other networks Na (root ****_**_****) by which LAN connection was made linked to a dedicated line.

[0017] The flow chart shows basic actuation of the above-mentioned confidential correspondence procedure to drawing 2. Here, here a dial-up line performs confidential transmitting notice and password transmission, and confidential transmission shows the example which carries out electronic mail transmission through computer communication network N. A transmitting side sets up self user ID, a contract provider, a circuit class, etc. first for electronic mail transmission (S1). Then, if it judges whether it will be the password with which this password was beforehand registered corresponding to this receiving side if a confidential transmitting notice is transmitted (S2) and a password is received from a receiving side to this by facsimile transmission (S3) and (S4) and a password are in agreement, according to a setup by S1, a provider will be called automatically and an electronic mail will be transmitted (S5).

[0018] Although it becomes unnecessary to carry out a fear of the data which carried out confidential transmission disappearing in a transmitting side since the reply of a password is received from the receiving side, it is being checked that the receipt was received from the receiving side and transmission has been completed further here (S6). On the other hand, in a receiving side, that an electronic mail should be received if facsimile reception of the confidential transmitting notice is carried out (S11), if a letter is answered through a dial-up line in a password by (S12), a key stroke, etc., confidential reception by the electronic mail is performed automatically after that (S14) and this reception is completed after performing the same setup as a transmitting side, a receipt will be transmitted to a transmitting side (S15). In addition, you may make it this receipt transmit by facsimile transmission besides using the Reply function of an electronic mail.

[0019] Moreover, by facsimile reception, confidential reception of the receiving side can also be carried out, and it can also operate as usual in this case. namely, the thing which sequential are recording of the image data which received was carried out in the confidential box (memory) specified by the transmitting side, and was done for confidential reception -- the destination, a confidential box number, etc. -- a printout -- or a screen display is carried out. Then, if the password corresponding to a confidential box is entered, the data stored in the confidential box will be decrypted and it will display on the recording paper on a printout or a screen.

[0020] In addition, the password used here may be the same as the password which answers the above-mentioned transmitting side, and you may make it change it. An example of a confidential transmitting notice which transmits before confidential transmission is shown in drawing 3, and if a receiving side receives such a confidential transmitting notice and the reply place indicated here will be answered in a password, confidential reception can be carried out continuously.

[0021] Next, the communication terminal for enforcing the confidential correspondence procedure of

this invention is explained. Drawing 4 is the block diagram showing an example of the internal configuration of a communication terminal. Here, the Internet is used as a computer communication network and the configuration of the facsimile apparatus with an electronic mail function which uses electronic mail (e-mail) service on the Internet is shown. That is, in addition to conventional G3 and the facsimile communication facility of G4, this facsimile apparatus is equipped with communication facility with the Internet.

[0022] CPU1 performs each processing of coding/decryption it not only controls each part of this facsimile apparatus, but mentioned later, image transformation, binary text conversion, e-mail edit, communication procedure control, etc. through a bus 12. A read station 2 reads a manuscript by CCD etc., and outputs a monochrome binary image data. The Records Department 3 has printers, such as an electrophotography method, and records the image data which received through other G3 and G4 facsimile equipment to the Internet (printout). A display 4 is equipped with a liquid crystal display etc., and displays the operating state of this facsimile apparatus, and an image data. A control unit 5 is equipped with a ten key, a compaction dialing key, an one-touch dialing key, various function keys, etc., and performs various input setup to this facsimile apparatus.

[0023] ROM6 memorizes software required for actuation of this facsimile apparatus. RAM7 memorizes temporary data generated at the time of activation of software, and also has memorized the various tables T1 mentioned later - T3. Image memory 8 consists of DRAMs etc. and memorizes an image data. DSU (Data Circuit Terminating Equipment: Digital Service Unit)9 performs conversion of a transmitted and received data and an electrical potential difference so that it can connect with the digital channel L1 which is using the base band transmission method. The modem 10 is equipped with the data modem function other than the conventional FAX modem function. NCU (network control unit: Network Control Unit)11 performs closing of an analog network L2, and disconnection.

[0024] Drawing 5 shows typically the data flow in the facsimile apparatus shown in drawing 4. In this drawing, the same sign is given to drawing 4 and a corresponding part. Although the electronic mail transducer 20 mentioned later, the coding decryption section 21, and the auto dialer 25 do not exist in drawing 4, they shall be processed by CPU1 based on the software memorized by ROM6.

[0025] In addition, the electronic mail transducer 20 consists of the image transformation section 22, a binary text transducer 23, and the e-mail editorial department 24, and, in addition to facsimile communication, enables access to the Internet, and use of electronic mail service by equipping the conventional facsimile apparatus with this electronic mail transducer 20. The coding decryption section 21 encodes or decrypts an image data with coding methods, such as MH, MR, and MMR. Hereafter, the image data encoded by these coding methods is called a "coding image data." This coding image data is memorized in image memory 8.

[0026] At the time of transmission of an electronic mail, the image transformation section 22 changes it from TIFF at a coding image data at the time of reception, while changing a coding image data into TIFF (Tagged ImageFile format) which is the general graphics format used by computer. TIFF is various Class(es) which are exhibited by adobe and treat not only monochrome binary one but monochrome multiple value and full color **. It defines. Class F which treats a facsimile image to one of them It defines and is Class F to a head to a coding image data. If addition of TIFF header information etc. is performed, it is convertible for TIFF. The following and Class F The coding image data to which TIFF header information was added is called a "TIFF image data."

[0027] At the time of transmission of an electronic mail, while the binary text transducer 23 changes binary data into text data, it changes text data into binary data at the time of reception. Since the computer which cannot treat the electronic mail of binary data may be connected to the Internet, in order to make it an electronic mail arrive certainly to a phase hand, it is necessary to change binary data, such as a TIFF image data, into text data at the time of transmission.

[0028] The text data treated by the Internet is specified as a 7-bit code in the document and RFC (Request For Comments)822 which IETF (Internet Engineering Task Fore) publishes. If base64 of MIME (Multipurpose Internet Mail Extensions) etc. is used, binary data are convertible for text data. In addition, it is the coding method which changes binary data into text data in base64 by considering that

8 bit x3 byte binary data are 6 bit x4 byte, and assigning a character code to each cutting tool.

[0029] While the e-mail editorial department 24 adds mail header information to the TIFF image data changed into text data and edits into an electronic mail format, at the time of reception, mail header information is removed from the data of an electronic mail format at the time of transmission of an electronic mail, and it makes it the TIFF image data of text data. the head of the TIFF image data which mail header information is the predetermined header information of the electronic mail of the Internet, and transmits here -- "From:", "To:", "Subject:", "cc:", and "Date: -- " etc. -- adding an item is specified.

[0030] The auto dialer 25 sends telephone number data to DSU9, a modem 10, or NCU11 that call origination of the telephone number read from the provider table T2 and phase hand table T3 should be carried out. By such configuration, while this facsimile apparatus performs facsimile communication, transmission and reception of an electronic mail are logged in to a protocol using PAP (Password Authentication Protocol), and data transmission by SMTP (Simple Mail Transfer Protocol) and data reception by POP (Post Office Protocol) are performed.

[0031] Next, the configuration of each table T1 - T3 is explained with drawing 6 . The user ID for logging in to the Internet, a password, an e-mail address (domain name), and provider classification are registered into the user table T1 of drawing 6 (a) for every user who uses this facsimile apparatus, and provider classification supports the provider classification of the provider table T2 of (b).

[0032] The provider table T2 of drawing 6 (b) was made to correspond to provider classification, and a provider's telephone number used when accessing a provider name, a circuit class (an analog or digital), and the Internet is registered into it. By this, a different login procedure for every provider can be identified and performed, and when one user uses two or more providers, or even when the provider has two or more telephone lines, it can respond by setup of this table T2.

[0033] A phase hand name, a partner's e-mail address, a facsimile number and facsimile classification (G3 or G4), and a password are registered into phase hand table T3 of drawing 6 (c) for every abbreviated number, one-touch number to be dialed, or program one-touch number. It is the password answered from a receiving side at the time of confidential transmission, and if this password receives a password after transmitting a confidential transmitting notice, it will judge whether confidential transmission can be performed with reference to this table T3.

[0034] If each table T1 mentioned above - T3 can be made to carry out listing of the contents of a setting except the secret matter of a password etc. from the Records Department 3 or a display 4, a setup of each table T1 - T3, modification, and a check will become simple. In addition, this invention can also take the gestalt of operations other than the above, and computer communication networks other than the Internet (for example, NIFTY-Serve) may often (for example, WWW of the Internet) also as data, such as voice and an animation, be used for it for the data transmitted in computer communication network N in addition to an image data.

[0035]

[Effect of the Invention] According to the confidential correspondence procedure of this invention according to claim 1, when performing confidential transmission, beforehand, a transmitting side performs a confidential transmitting notice to a receiving side, receives the reply of a password from a receiving side, and after it checks that it is in agreement with the password which this password registered beforehand, it starts confidential transmission, so that he can understand also from the above explanation.

[0036] Therefore, a transmitting side can prevent that it turns out that a receiving side is in a ready-for-receiving ability condition, and the transmitted data disappear by answering a password. Therefore, important data can be transmitted in comfort. On the other hand, since a receiving side becomes unnecessary to have a confidential box like before since it can start reception of data immediately after that and can receive immediate data if a letter is answered in a password after it receives a confidential transmitting notice, it can maintain the confidentiality of data further.

[0037] Moreover, since it can choose freely through which of a dial-up line and a computer communication network confidential transmission and a confidential transmitting notice are performed, the suitable confidential communication link according to each equipment is attained. According to

claim 2, since confidential transmission is performed through a computer communication network, even if the transmitted data are saved at a provider (server) side and have interruption of service by the receiving side, data do not disappear and they can take out data after restoration of interruption of service.

[0038] According to claim 3, since a confidential transmitting notice is performed through a computer communication network, it is not known by others that there is confidential transmission and it can raise confidentiality more.

[Translation done.]

* NOTICES *

JPO and NCIP are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

MEANS

[Means for Solving the Problem] The password which identifies a receiving side beforehand is registered into the transmitting side, and in the confidential correspondence procedure according to claim 1 proposed in order to attain the above-mentioned purpose, when performing confidential transmission, beforehand, a confidential transmitting notice is performed to a receiving side, the reply of a password is received from a receiving side, and a transmitting side starts confidential transmission, after it checks that it is in agreement with the password which this password registered beforehand.

[0008] That is, by the approach of this invention, at a transmitting side, by the reply of a password, since it turns out that a receiving side is in a powering-on condition (ready-for-receiving ability condition), important data can be transmitted in comfort. In one receiving side, by a key stroke etc., since data are directly receivable immediately after answering a letter in a password, it becomes unnecessary to have a confidential box like before, and the confidentiality of data can be held further.

[0009] Confidential transmission and a confidential transmitting notice are performed here through a dial-up line or a computer communication network. Moreover, what is necessary is just to use for a password the password which the receiving side is using in a confidential communication link from the former. That is, it is beforehand assigned to a password to those who can use confidential reception, and if the ID code which inputs the data stored in the confidential box a printout or in order to carry out a screen display is used as it is, actuation by the receiving side does not need to become complicated.

[0010] At claim 2, confidential transmission is performed through a computer communication network, and a confidential transmitting notice is also performed through a computer communication network by claim 3. There are the Internet, NIFTY-Serve, PC-VAN which are personal computer communication service, etc. in a computer communication network, and electronic mail service is carried out as one of the services here.

[0011] Thus, the communication terminal which uses the confidential correspondence procedure of this invention is enabling connection of a computer communication network. As this kind of equipment, there are facsimile apparatus with an electronic mail function, a personal computer equipped with data communication facility, etc.

[0012]

[Embodiment of the Invention] Below, the gestalt of operation of this invention is explained with reference to a drawing. The system configuration for realizing the confidential correspondence procedure of this invention to drawing 1 is shown. Here, actuation of this invention approach is explained for the facsimile apparatus F and Fa with an electronic mail function in drawing as a communication terminal of a transmitting side and a receiving side, respectively.

[0013] The data transmission from facsimile apparatus [of a transmitting side] F may connect computer communication network N through a dial office P, may transmit an electronic mail, may connect computer communication network N to the tide of arbitration through a dial office Pa with the facsimile apparatus Fa of a receiving side, and may carry out facsimile transmission through the case (root **.-**.-**.-**) where an electronic mail is made to receive, and a dial-up line (root **.-**.-**.-**).

[0014] By this invention approach, the password which identifies a receiving side Fa beforehand is

registered into the transmitting side F (it mentions later). A transmitting side F In order to transmit data only to a specific man, when performing confidential transmission After checking that it is in agreement with the password which performed the confidential transmitting notice which showed that confidential transmission was carried out to the receiving side Fa, and received the reply of a password in it from the receiving side Fa, and this password registered into it beforehand, it is characterized by starting confidential transmission.

[0015] In addition, although confidential transmission and a confidential transmitting notice may be performed by any of electronic mail transmission and facsimile transmission, it is more desirable to make transmission of the password from a receiving side Fa into the data communication which used the dial-up line, if the point of confidentiality and safety is taken into consideration. The personal computer PCa (root **_**_**_**, **_**_**) linked to a dial office Pa is sufficient as the equipment of a receiving side, and it may be the usual facsimile apparatus Fb which is not equipped with the electronic mail function.

[0016] If a receiving side is the usual facsimile apparatus Fb, facsimile transmission of both the both sides of confidential transmission and a confidential transmitting notice will be carried out (root **_**_**_**). In this case, the password transmission from a receiving side serves as a Request to Send, and the polling communication link with which the usual facsimile apparatus Fb is equipped from the former can be realized. In addition, also except the confidential transmission whose facsimile apparatus F does not need a password, electronic mail transmission is possible and that of data transmission is possible to Computer PC (root **_**_**) and other networks Na (root **_**_**) by which LAN connection was made linked to a dedicated line.

[0017] The flow chart shows basic actuation of the above-mentioned confidential correspondence procedure to drawing 2 . Here, here a dial-up line performs confidential transmitting notice and password transmission, and confidential transmission shows the example which carries out electronic mail transmission through computer communication network N. A transmitting side sets up self user ID, a contract provider, a circuit class, etc. first for electronic mail transmission (S1). Then, if it judges whether it will be the password with which this password was beforehand registered corresponding to this receiving side if a confidential transmitting notice is transmitted (S2) and a password is received from a receiving side to this by facsimile transmission (S3) and (S4) and a password are in agreement, according to a setup by S1, a provider will be called automatically and an electronic mail will be transmitted (S5).

[0018] Although it becomes unnecessary to carry out a fear of the data which carried out confidential transmission disappearing in a transmitting side since the reply of a password is received from the receiving side, it is being checked that the receipt was received from the receiving side and transmission has been completed further here (S6). On the other hand, in a receiving side, that an electronic mail should be received if facsimile reception of the confidential transmitting notice is carried out (S11), if a letter is answered through a dial-up line in a password by (S12), a key stroke, etc., confidential reception by the electronic mail is performed automatically after that (S14) and this reception is completed after performing the same setup as a transmitting side, a receipt will be transmitted to a transmitting side (S15). In addition, you may make it this receipt transmit by facsimile transmission besides using the Reply function of an electronic mail.

[0019] Moreover, by facsimile reception, confidential reception of the receiving side can also be carried out, and it can also operate as usual in this case. namely, the thing which sequential are recording of the image data which received was carried out in the confidential box (memory) specified by the transmitting side, and was done for confidential reception -- the destination, a confidential box number, etc. -- a printout -- or a screen display is carried out. Then, if the password corresponding to a confidential box is entered, the data stored in the confidential box will be decrypted and it will display on the recording paper on a printout or a screen.

[0020] In addition, the password used here may be the same as the password which answers the above-mentioned transmitting side, and you may make it change it. An example of a confidential transmitting notice which transmits before confidential transmission is shown in drawing 3 , and if a receiving side

receives such a confidential transmitting notice and the reply place indicated here will be answered in a password, confidential reception can be carried out continuously.

[0021] Next, the communication terminal for enforcing the confidential correspondence procedure of this invention is explained. Drawing 4 is the block diagram showing an example of the internal configuration of a communication terminal. Here, the Internet is used as a computer communication network and the configuration of the facsimile apparatus with an electronic mail function which uses electronic mail (e-mail) service on the Internet is shown. That is, in addition to conventional G3 and the facsimile communication facility of G4, this facsimile apparatus is equipped with communication facility with the Internet.

[0022] CPU1 performs each processing of coding/decryption it not only controls each part of this facsimile apparatus, but mentioned later, image transformation, binary text conversion, e-mail edit, communication procedure control, etc. through a bus 12. A read station 2 reads a manuscript by CCD etc., and outputs a monochrome binary image data. The Records Department 3 has printers, such as an electrophotography method, and records the image data which received through other G3 and G4 facsimile equipment to the Internet (printout). A display 4 is equipped with a liquid crystal display etc., and displays the operating state of this facsimile apparatus, and an image data. A control unit 5 is equipped with a ten key, a compaction dialing key, an one-touch dialing key, various function keys, etc., and performs various input setup to this facsimile apparatus.

[0023] ROM6 memorizes software required for actuation of this facsimile apparatus. RAM7 memorizes temporary data generated at the time of activation of software, and also has memorized the various tables T1 mentioned later - T3. Image memory 8 consists of DRAMs etc. and memorizes an image data. DSU (Data Circuit Terminating Equipment: Digital Service Unit)9 performs conversion of a transmitted and received data and an electrical potential difference so that it can connect with the digital channel L1 which is using the base band transmission method. The modem 10 is equipped with the data modem function other than the conventional FAX modem function. NCU (network control unit: Network Control Unit)11 performs closing of an analog network L2, and disconnection.

[0024] Drawing 5 shows typically the data flow in the facsimile apparatus shown in drawing 4. In this drawing, the same sign is given to drawing 4 and a corresponding part. Although the electronic mail transducer 20 mentioned later, the coding decryption section 21, and the auto dialer 25 do not exist in drawing 4, they shall be processed by CPU1 based on the software memorized by ROM6.

[0025] In addition, the electronic mail transducer 20 consists of the image transformation section 22, a binary text transducer 23, and the e-mail editorial department 24, and, in addition to facsimile communication, enables access to the Internet, and use of electronic mail service by equipping the conventional facsimile apparatus with this electronic mail transducer 20. The coding decryption section 21 encodes or decrypts an image data with coding methods, such as MH, MR, and MMR. Hereafter, the image data encoded by these coding methods is called a "coding image data." This coding image data is memorized in image memory 8.

[0026] At the time of transmission of an electronic mail, the image transformation section 22 changes it from TIFF at a coding image data at the time of reception, while changing a coding image data into TIFF (Tagged ImageFile format) which is the general graphics format used by computer. TIFF is various Class(es) which are exhibited by adobe and treat not only monochrome binary one but monochrome multiple value and full color **. It defines. Class F which treats a facsimile image to one of them It defines and is Class F to a head to a coding image data. If addition of TIFF header information etc. is performed, it is convertible for TIFF. The following and Class F The coding image data to which TIFF header information was added is called a "TIFF image data."

[0027] At the time of transmission of an electronic mail, while the binary text transducer 23 changes binary data into text data, it changes text data into binary data at the time of reception. Since the computer which cannot treat the electronic mail of binary data may be connected to the Internet, in order to make it an electronic mail arrive certainly to a phase hand, it is necessary to change binary data, such as a TIFF image data, into text data at the time of transmission.

[0028] The text data treated by the Internet is specified as a 7-bit code in the document and RFC

(Request For Comments)822 which IETF (Internet Engineering Task Fore) publishes. If base64 of MIME (Multipurpose Internet Mail Extensions) etc. is used, binary data are convertible for text data. In addition, it is the coding method which changes binary data into text data in base64 by considering that 8 bit x3 byte binary data are 6 bit x4 byte, and assigning a character code to each cutting tool.

[0029] While the e-mail editorial department 24 adds mail header information to the TIFF image data changed into text data and edits into an electronic mail format, at the time of reception, mail header information is removed from the data of an electronic mail format at the time of transmission of an electronic mail, and it makes it the TIFF image data of text data. the head of the TIFF image data which mail header information is the predetermined header information of the electronic mail of the Internet, and transmits here -- "From:", "To:", "Subject:", "cc:", and "Date: -- " etc. -- adding an item is specified.

[0030] The auto dialer 25 sends telephone number data to DSU9, a modem 10, or NCU11 that call origination of the telephone number read from the provider table T2 and phase hand table T3 should be carried out. By such configuration, while this facsimile apparatus performs facsimile communication, transmission and reception of an electronic mail are logged in to a protocol using PAP (Password Authentication Protocol), and data transmission by SMTP (Simple Mail Transfer Protocol) and data reception by POP (Post Office Protocol) are performed.

[0031] Next, the configuration of each table T1 - T3 is explained with drawing 6 . The user ID for logging in to the Internet, a password, an e-mail address (domain name), and provider classification are registered into the user table T1 of drawing 6 (a) for every user who uses this facsimile apparatus, and provider classification supports the provider classification of the provider table T2 of (b).

[0032] The provider table T2 of drawing 6 (b) was made to correspond to provider classification, and a provider's telephone number used when accessing a provider name, a circuit class (an analog or digital), and the Internet is registered into it. By this, a different login procedure for every provider can be identified and performed, and when one user uses two or more providers, or even when the provider has two or more telephone lines, it can respond by setup of this table T2.

[0033] A phase hand name, a partner's e-mail address, a facsimile number and facsimile classification (G3 or G4), and a password are registered into phase hand table T3 of drawing 6 (c) for every abbreviated number, one-touch number to be dialed, or program one-touch number. It is the password answered from a receiving side at the time of confidential transmission, and if this password receives a password after transmitting a confidential transmitting notice, it will judge whether confidential transmission can be performed with reference to this table T3.

[0034] If each table T1 mentioned above - T3 can be made to carry out listing of the contents of a setting except the secret matter of a password etc. from the Records Department 3 or a display 4, a setup of each table T1 - T3, modification, and a check will become simple. In addition, this invention can also take the gestalt of operations other than the above, and computer communication networks other than the Internet (for example, NIFTY-Serve) may often (for example, WWW of the Internet) also as data, such as voice and an animation, be used for it for the data transmitted in computer communication network N in addition to an image data.

[Translation done.]

* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing having shown an example of the structure of a system which uses the confidential correspondence procedure of this invention.

[Drawing 2] It is the flow chart which shows basic actuation of the confidential correspondence procedure of this invention.

[Drawing 3] It is drawing having shown an example of a confidential transmitting notice.

[Drawing 4] It is the block diagram having shown an example of the internal configuration of a communication terminal which enforces the confidential correspondence procedure of this invention.

[Drawing 5] It is the mimetic diagram having shown the data flow in the communication terminal of drawing 4.

[Drawing 6] It is drawing having shown an example of the configuration of the table memorized by the communication terminal of drawing 4.

[Description of Notations]

N ... Computer communication network

F, Fa ... Facsimile apparatus with an electronic mail function

20 ... Electronic mail transducer

22 ... Image transformation section

23 ... Binary text transducer

24 ... E-mail editorial department

T1 ... User table

T2 ... Provider table

T3 ... Phase hand table

[Translation done.]

* NOTICES *

JPO and NCIPi are not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] the time of registering into the transmitting side the password which identifies a receiving side beforehand, and a transmitting side performing confidential transmission -- beforehand -- a receiving side -- a confidential transmitting notice -- carrying out -- the reply of a receiving side to a password -- winning popularity -- this password -- the account of a top -- the confidential correspondence procedure characterized by starting confidential transmission after checking that it is in agreement with the password registered beforehand.

[Claim 2] It is the confidential correspondence procedure characterized by performing the above-mentioned confidential transmission through a computer communication network in claim 1.

[Claim 3] It is the confidential correspondence procedure characterized by performing the above-mentioned confidential transmitting notice through a computer communication network in claim 1 or 2.

[Translation done.]